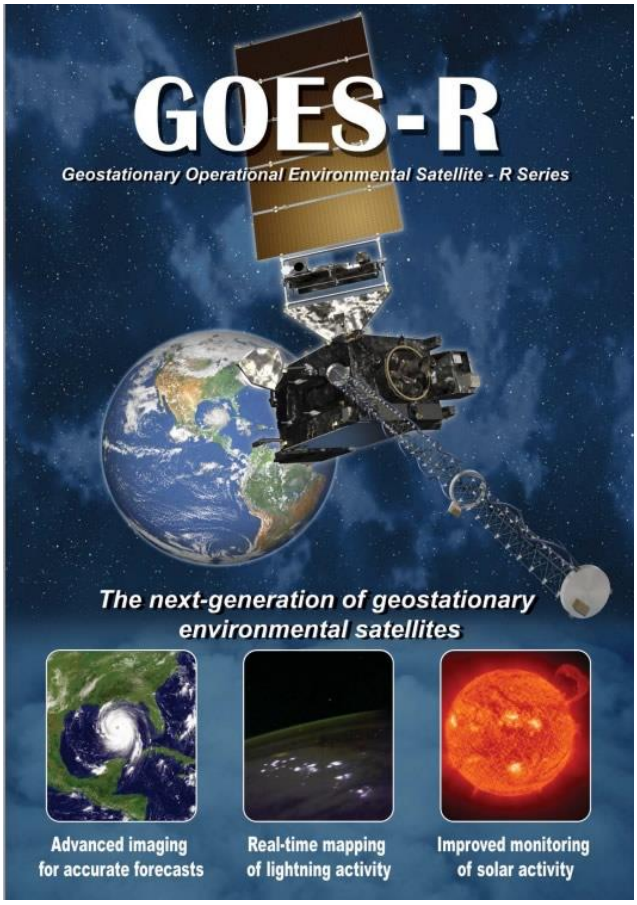
GOES-R, GOES-16



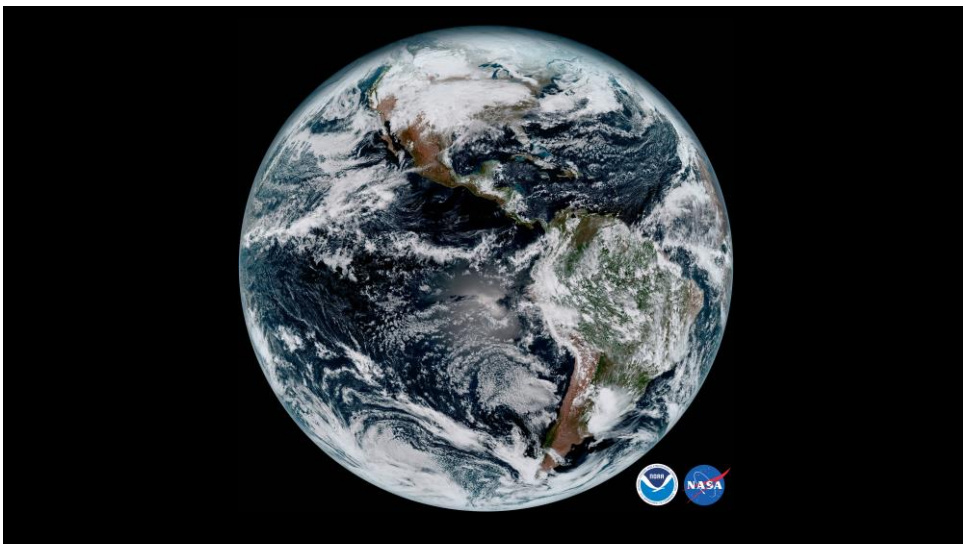
Overview

NOAA's GOES-R Series Program is a collaborative development and acquisition effort between the National Oceanic and Atmospheric Administration (NOAA) and NASA. The GOES-R Series satellites will provide continuous imagery and atmospheric measurements of Earth's Western Hemisphere and also provide space weather monitoring. GOES-16, the first of the series, was launched November 19, 2016. It is in position to gather non-operational observations during the solar eclipse on August 21, 2017. NOAA's GOES-16 follows a geosynchronous orbit, meaning its speed matches that of Earth's. Thus, GOES-16 has a constant view of the Western Hemisphere. During the eclipse, the Advanced Baseline Imager (ABI) will be looking at Earth and will be able to take detailed images of the Moon's shadow every sixty seconds. Another imager on board, the Solar Ultraviolet Imager (SUVI), will be able to observe the Sun during the eclipse in six wavelength bands.

Eclipse Science

ABI is the primary instrument on the GOES-R series for imaging Earth's weather, oceans, and environment. ABI is a multi-channel passive imaging radiometer designed to observe the Western Hemisphere and provide variable area imagery and radiometric information of Earth's surface, atmosphere and cloud cover. The instrument currently has two scan modes. The default mode concurrently takes a full disk image of the Western Hemisphere every 15 minutes, an image of the Continental U.S. every five minutes, and two smaller, more detailed images of areas where storm activity is present at a rate of one image every 60 seconds. The ABI can also operate in continuous full disk mode, providing uninterrupted scans of the full disk every five minutes.

SUVI is a telescope that monitors the Sun in the extreme ultraviolet wavelength range from 94 to 304 angstroms. SUVI observes and characterizes complex active regions of the Sun, solar flares, and the eruptions of solar filaments, which may give rise to coronal mass ejections. SUVI uses six wavelength bands to observe the range of solar phenomena important for space weather forecasting.



The Western Hemisphere taken by the ABI onboard the GOES-16

ADDITIONAL RESOURCES:

Mission Project Home Page: https://www.goes-r.gov

Additional Information: https://www.nedis.noaa.gov/GOES-16